

**CLAIMS**

What is claimed is:

- 1 1. A method for manufacturing a tape head, comprising:
  - 2 creating a slot in an upper face of a substrate of a tape head, the slot including at
  - 3 least one edge defining an edge of a tape bearing surface of the tape head;
  - 4 forming and finishing the air bearing surface of the tape head; and
  - 5 performing a grind operation to form a notch in the upper face of the substrate of
  - 6 the tape head, the notch extending from the slot to an outside end of the substrate of the
  - 7 tape head.
  
- 1 2. The method as recited in claim 1, wherein the tape bearing surface of the tape head is formed and finished after creating the slot.
  
- 1 3. The method as recited in claim 1, wherein the grind operation is performed after forming and finishing the tape bearing surface of the tape head.
  
- 1 4. The method as recited in claim 1, wherein the slot includes a depth substantially equal to a depth of the notch.

- 1 5. The method as recited in claim 1, wherein the slot includes a length substantially  
2 equal to a length of the notch.
  - 1 6. The method as recited in claim 1, wherein the edge of the tape bearing surface of  
2 the tape head includes a defect after the slot is created.
  - 1 7. The method as recited in claim 6, wherein the finishing removes the defect.
  - 1 8. The method as recited in claim 1, wherein the edge is inspected utilizing an  
2 interferometer.
  - 1 9. A tape head manufactured utilizing a process, comprising:  
2 creating a slot in an upper face of a substrate of a tape head, the slot including at  
3 least one edge defining an edge of a tape bearing surface of the tape head;  
4 forming and finishing the air bearing surface of the tape head; and  
5 performing a grind operation to form a notch in the upper face of the substrate of  
6 the tape head, the notch extending from the slot to an outside end of the substrate of the  
7 tape head.
  - 1 10. The tape head as recited in claim 9, wherein the tape bearing surface of the tape  
2 head is finished after creating the slot.

1    11.    The tape head as recited in claim 9, wherein the grind operation is performed after  
2                         finishing the air bearing surface of the tape head.

1    12.    The tape head as recited in claim 9, wherein the slot includes a depth substantially  
2                         equal to a depth of the notch.

1    13.    The tape head as recited in claim 9, wherein the slot includes a length  
2                         substantially equal to a length of the notch.

1    14.    The tape head as recited in claim 9, wherein the edge of the tape bearing surface  
2                         of the tape head includes a defect after the slot is created.

1    15.    The tape head as recited in claim 14, wherein the finishing removes the defect.

1    16.    The tape head as recited in claim 9, wherein the notch facilitates control of a wrap  
2                         angle of a tape when passing over the tape bearing surface of the tape head.

1    17.    A tape drive system, comprising:  
2                         a tape head manufactured utilizing a process, comprising:  
3                                 creating a slot in an upper face of a substrate of the tape head, the slot  
4                                 including at least one edge defining an edge of a tape bearing  
5                                 surface of the tape head,

6 forming and finishing the tape bearing surface of the tape head, and  
7 performing a grind operation to form a notch in the upper face of the  
8 substrate of the tape head, the notch extending from the slot to an  
9 outside end of the substrate of the tape head; and  
10 a tape for being moved along the tape head.

1 18. The tape drive system as recited in claim 17, wherein the tape bearing surface of  
2 the tape head is finished after creating the slot.

1 19. The tape drive system as recited in claim 17, wherein the grind operation is  
2 performed after finishing the tape bearing surface of the tape head.

1 20. The tape drive system as recited in claim 17, wherein the slot includes a depth  
2 substantially equal to a depth of the notch.

1 21. The tape drive system as recited in claim 17, wherein the slot includes a length  
2 substantially equal to a length of the notch.

1 22. The tape drive system as recited in claim 17, wherein the edge of the tape bearing  
2 surface of the tape head includes a defect after the slot is created.

1 23. The tape drive system as recited in claim 22, wherein the finishing removes the  
2 defect.

1    24.    The tape drive system as recited in claim 17, wherein the notch facilitates control  
2                 of a wrap angle of a tape when passing over the tape bearing surface of the tape  
3                 head.

1    25.    A method for improving a tape bearing surface of a tape head, comprising:  
2                 performing a grind operation to form a notch in an upper face of a substrate of a  
3                 tape head, the notch extending from an edge of a tape bearing surface of the tape head to  
4                 an outside end of the substrate of the tape head; and  
5                 finishing the air bearing surface of the tape head.

1    26.    A tape head, comprising:  
2                 a substrate with a notch formed therein including an edge that at least in part  
3                 defines a tape bearing surface, the edge including a defect less than 300 Angstroms in  
4                 height.  
5                 a closure extending from the substrate; and  
6                 a magnetoresistive device positioned in the substrate adjacent to the tape bearing  
7                 surface.

1    27.    The tape head as recited in claim 26, wherein the edge includes a defect less than  
2                 200 Angstroms in height.

1    28.    The tape head as recited in claim 27, wherein the edge includes a defect less than  
2                100 Angstroms in height.

1    29.    The tape head as recited in claim 26, wherein the edge includes a defect less than  
2                500nm in depth.

1    30.    A method, comprising:  
2                cutting a plurality of tape heads from a wafer;  
3                attaching a closure to each of the tape heads;  
4                creating a slot in an upper face of a substrate of each of the tape heads, each slot  
5                including at least one edge defining an edge of a tape bearing surface of the  
6                corresponding tape head;  
7                forming and finishing the tape bearing surface of each of the tape heads;  
8                separating the tape heads;  
9                attaching a beam to each of the tape heads; and  
10              performing a grind operation to form a notch in the upper face of the substrate of  
11              each of the tape heads, each notch extending from the slot to an outside end of the  
12              substrate of the corresponding tape head.